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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,024	11/21/2001	Kiril B. Chukanov	10535.2	2758
21999	7590	06/04/2004	EXAMINER	
KIRTON AND MCCONKIE 1800 EAGLE GATE TOWER 60 EAST SOUTH TEMPLE P O BOX 45120 SALT LAKE CITY, UT 84145-0120			TRAN, THUY V	
			ART UNIT	PAPER NUMBER
			2821	
DATE MAILED: 06/04/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/990,024

Applicant(s)

CHUKANOV, KIRIL B.

Examin r

THUY V. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1 is/are allowed.
6) ☒ Claim(s) 2-34 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 21 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date May 20, 2002.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is a response to the Applicant's filing on November 21st, 2001. In virtue of this filing, claims 1-34 are currently presented in the instant application.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on May 20th, 2002 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings Objections

2. The drawings are objected to because the reference numerals/characters in Figs. 1, 7, 8, 9, and 14 are not legible. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Abstract Objection

3. The abstract of the disclosure is objected to because it is too long. Correction is required. See MPEP § 608.01(b).

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections/ Minor Informalities

5. Claims 2-4, 6, 8-9, 11, 15-16, 18-19, 21-22, 25, 27, and 29-32 are objected to because of the following informalities:

Claim 2, line 10, “the” should be deleted;

Claim 2, line 20, “the” should be deleted;

Claim 2, line 21, “the” should be deleted;

Claim 3, line 2, “the” should be changed to --a--;

Claim 4, line 18, “the” should be deleted;

Claim 6, line 1, “the” should be changed to --a--;

Claim 8, line 2, “the” should be changed to --a--;

Claim 9, line 1, “the” should be changed to --a--;

Claim 11, line 3, “the” should be changed to --a--;

Claim 15, line 3, “the” should be changed to --an--;

Claim 16, line 2, “the” should be changed to --a--;

Claim 18, line 2, “the” should be deleted;

Claim 19, line 2, “an” (second occurrence) should be changed to --the--;

Claim 19, line 6, --said-- should be inserted between “radiate” and “quantum”;

Claim 21, line 1, “19” should be changed to --20--;

Claim 22, line 2, “the” should be changed to --a--;

Claim 25, line 1, “the” should be changed to --a--;

Claim 27, line 2, “the” should be deleted;

Claim 29, line 10, “the” should be deleted;

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Claim 29, line 16, "the" should be deleted;

Claim 30, line 8, "the" (first occurrence) should be deleted;

Claim 31, line 2, "the" should be changed to --a--; and

Claim 32, line 2, "the" should be changed to --a--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 18 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 18 recites the limitation "said vacuum means" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 28 recites the limitations "said power supply" and "said high frequency supply" in line 3. There is insufficient antecedent basis for this limitation in the claim.

In addition, with respect to claim 28, the term "the system" recited in line 2 renders the claim indefinite since it is not clear whether it includes all the components such as the dielectric container having a gaseous substance therein, the radiation chamber, and the other related components or just an individual component. Clarification is required.

Allowable Subject Matter

10. Claim 1 is allowed.

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11. Claims 2-34 would all be allowed if (i) claims 2-4, 6, 8-9, 11, 15-16, 18-19, 21-22, 25, 27, and 29-32 were corrected to overcome the objections set forth in this Office Action, and (ii) claims 18 and 28 were rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office Action.

12. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest:

- A method of generating quantum energy comprising the steps of (1) generating a quantum macro object from the electrons, the quantum macro object having a positively charged nucleus with a boundary, and an electron cloud surrounding the positively charged nucleus, the electron cloud comprising a plurality of free-floating electrons and a plurality of quantum electrons, and (2) inducing an active impact upon the quantum macro object by energizing the quantum electrons, wherein the quantum electrons are caused to move in an orbital manner about the nucleus, the active impact causing the quantum electrons to radiate quantum energy, in combination with the remaining claimed limitations as called for in independent claim 1;
- A method of generating high energy photons comprising the steps of (1) increasing the gas pressure within the bounded area to transition the glow discharge plasma to a quantum macro object, wherein the quantum object comprises a positively charged nucleus and an electron cloud surrounding the positively charged nucleus, the electron cloud comprising a plurality of quantum electrons and a plurality of free-floating electrons, the quantum electrons comprising large amounts of potential energy, and (2) energizing the quantum electrons by inducing an active impact upon

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the quantum macro object, wherein the quantum electrons are caused to move about and orbit the nucleus of the quantum macro object such that the potential energy existing within the quantum electrons is converted and released in form of quantum energy, in combination with the remaining claimed limitations as called for in independent claim 2 (claim 3 would be allowed since it is dependent on claim 2);

- A method of generating quantum energy comprising the steps of (1) transforming the plasma into a new state to obtain a quantum macro object having a positively charged nucleus with a definite and distinct boundary, and an electron cloud adjacent to and surrounding the boundary, the electron cloud containing a plurality of quantum electrons in a quantum state and a plurality of free-floating electrons not associated with the quantum object, the electron cloud contained within a dielectric barrier created between a dielectric wall within the dielectric container and the nucleus of the quantum macro object, and (2) inducing an active impact upon the quantum macro object by energizing the quantum electrons with an electrical current, wherein the quantum electrons are caused to accelerate in an orbital motion around the quantum macro object, thereby radiating high energy photons in form of quantum energy, the active impact causing the generation of the quantum energy, in combination with the remaining claimed limitations as called for in independent claim 4 (claims 5-28 would be allowed since they are dependent on claim 4; note that, for allowability, claims 6, 8-9, 11, 15-16, 18-19, 21-22, 25, 27 should be corrected to overcome the objections set forth in this Office Action, and claims 18 and 28 must be rewritten to

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overcome the rejections under 35 U.S.C. 112, 2nd paragraph set forth in this Office Action);

- A method of generating high energy photons comprising the steps of (1) radiating, continuously, the chamber with microwave radiation at a minimum frequency of about 2 GHz, such that composition atoms of the gaseous substance disassociate and disintegrate to their component electron and atomic nuclei particles, wherein the radiation energizes the gaseous substance, wherein the gaseous substance ionizes and transitions to a glow discharge plasma state, (2) increasing the gas pressure within the quartz dielectric container, thus causing the glow discharge plasma to transition to a new state in form of a quantum macro object, the quantum macro object comprised of an autonomous body having a positively charged structureless component that forms a metastable homogeneous compact nuclei having a distinct boundary, and an electron cloud adjacent to and surrounding the nuclei, the electron cloud containing a plurality of quantum electrons in a quantum state and a plurality of free-floating electrons not associated with the quantum macro object, the electron cloud contained within a dielectric barrier created between a dielectric wall within the dielectric container and the nucleus of the quantum macro object, the dielectric wall comprising an electron layer contained therein, and (3) energizing the quantum electrons by inducing an active impact upon the quantum macro object, the active impact created by introducing an electrical current into the electron cloud adjacent the boundary of the quantum macro object, the electrical current comprising a minimum voltage of about 2000 volts and a minimum current of about 3 amps, the electrical current

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energizing the quantum electrons and causing them to move in an orbital manner about the quantum macro object and within the dielectric barrier at a constant acceleration a_c and with a kinetic energy E_k , such that the energized electrons generate and radiate inexhaustible quantum energy E_n equal to the kinetic energy E_k , in combination with the remaining claimed limitations as called for in independent claim 29; and

- A system for generating high energy photons comprising (1) means for increasing gas pressure within the bounded area to transition the glow discharge plasma to a quantum macro object, wherein the quantum macro object comprises a positively charged nucleus and an electron cloud surrounding the positively charged nucleus, the electron cloud comprising a plurality of free-floating electrons and a plurality of quantum electrons, the quantum electrons comprising large amounts of potential energy, and (2) an energizer for energizing the quantum by inducing an active impact upon the quantum macro object, wherein the quantum electrons are caused to orbit the nucleus of the quantum macro object such that the potential quantum energy existing within the quantum electrons is continuously and inexhaustibly converted and released in form of quantum energy, in combination with the remaining claimed limitations as called for in independent claim 30 (claims 31-34 would be allowed since they are dependent on claim 30).

Citation of relevant prior art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Prior art Chen et al. (U.S. Patent No. 6,313,428) discloses an apparatus and method for reducing space charge of ion beams and wafer charging.

Prior art Matsuda et al. (U.S. Patent No. 4,598,231) discloses a microwave ion source.

Prior art Schoenmakers (U.S. Patent No. 4,019,091) discloses a gas discharge electron gun for generating an electron beam by means of a glow discharge.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THUY V. TRAN whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DON WONG can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THUY V. TRAN
Examiner
Art Unit 2821



T.T.
05/30/2004